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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,455	09/29/2003	Mikio Kuwahara	773-010c	4125

7590 04/19/2006

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EXAMINER

NGUYEN, HUY D

ART UNIT PAPER NUMBER

2617

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/674,455

Applicant(s)

KUWAHARA ET AL.

Examiner

Huy D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20,21 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                   |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

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**DETAILED ACTION**

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 20-21, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masenten (US Patent No. 6,535,560).

Regarding claim 20, Masenten teaches a radio base station apparatus provided with an antenna, comprising:

a probe signal adding unit (e.g., switch 106 ) which adds a probe signal to each of receive signals received by said antenna (see column 5, lines 5-7); a probe signal extracting unit which extracts the probe signal from said receive signals added with the probe signal (see column 6, lines 16-21); a phase calibration calculation unit (see column 2, lines 61-62) which calculates phase calibration required for calibrating a phase of each receive signal based on the probe signal extracted by said probe signal extracting unit; and a phase calibration unit for calibrating said phase of the each receive signal based on the phase calibration from said phase calibration

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calculation unit (see column 5, lines 65-67). Masenten does not teach an array antenna. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the method taught by Masenten to each antenna element in an array antenna since duplication involves only routine skill in the art. *St. Regis Paper co. v. Bemis co.*, 193 USPQ 8.

Regarding claim 21, since Masenten teaches CDMA system (see column 5, line 41), it is inherent that the system includes a dispreading unit.

Regarding claim 25, it has been known in the art that using higher spreading rate would result in multipath propagation delay difference being larger than the period of the spreading code so the diversity effect can be obtained to improve reception. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spreading rate higher than that of other signals to improve reception.

Regarding claim 26, Masenten teaches the radio base station apparatus according to Claim 20, wherein said probe signal is a sine wave (see column 1, lines 58-63).

Regarding claim 27, Masenten teaches the radio base station apparatus according to Claim 20, further comprising: an amplitude calibration calculation unit which calculates amplitude calibration required for calibrating amplitude of each receive signal based on the probe signal extracted by said probe signal extracting unit; and an amplitude calibration unit which calibrates an amplitude of said each receive signal based on the amplitude calibration from said amplitude calibration calculation unit (see column 9, lines 26-36).

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***Allowable Subject Matter***

4. Claims 22-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Wax et al. (US 2005/0047384 A1) teaches WLAN capacity enhancement using SDM.
- Forgang et al. (US 5,600,246) teaches method and apparatus for reducing signal-phase error in induction well logging instruments.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D. Nguyen whose telephone number is 571-272-7845. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJ

Huy Nguyen

*Jenica M. Beamer*

**JENICA BEAMER  
PRIMARY EXAMINER**

4/14/06